

IV. Novice Class and Advanced Class licensees.

27. As a result of the Commission's intent to streamline the Amateur Service, as set forth in WT Docket 98-143, it was decided not to issue any more Novice Class or Advanced Class licenses. However, the Commission decided to postpone any action on modification to existing grants with licensees holding those privileges. Since it was determined that amateurs with those particular grants should suffer no reduction in privileges, it was decided by the Commission that the grants should be "grandfathered" until appropriate action could be taken in the future. This has presented the Commission with the task of maintaining the existing license grants, which runs contrary to the streamlining goals set forth by Docket 98-143, in which the Commission sets a three-tier licensing structure for the Amateur Service. It also has the side-effect of freezing a significant portion of Part 97 of the Commission's regulations governing the Amateur Service.

28. The Radio Amateur Foundation also believes that a three-tier system is also appropriate for the future of Amateur Radio. It also believes that the amateurs who have Novice Class or Advanced Class license grants should suffer no reduction in

operating privileges, and that the solution should have a net positive impact on the Amateur Service as a whole. As a solution, the Radio Amateur Foundation respectfully requests the following modifications to the Commission's regulations regarding the Amateur Service:

29. A blanket upgrade of all Advanced Class license grants to Amateur Extra. As the Commission, and other petitioners have stated, the only perceived significant difference between the Amateur Extra Class and Advanced Class licensing requirements was the 20 word-per-minute radiotelegraphy exam. Technically, the exam elements are perceived as minimally different. Similarly, the difference in operating privileges are also minimal. Now that the radiotelegraphy requirement has been reduced to five words-per-minute for the Amateur Extra, and that all current Advanced Class licensees have passed a 13 word-per-minute radiotelegraphy examination, the "requirement gap" has been virtually eliminated. In keeping with the streamlining objectives set forth by the Commission in WT Docket 98-143, the Radio Amateur Foundation respectfully requests that the Commission upgrade all existing Advanced Class license grants to Amateur Extra Class at it's earliest convenience.

30. Elimination of the Novice Class license and a blanket upgrade of all Novice Class license grants to Technician

Class. For many decades, the Novice Class license served as the most popular gateway into the Amateur Service. Currently, more than five percent of all amateur license grants in the Commission database are to Novice Class licensees. Unfortunately, for a wide variety of reasons most of these amateurs are no longer active in the service. The HF novice sub bands are for the most part, devoid of their signals.

31. In WT Docket 98-143, the Commission has mandated its preference for a three-tier license structure, and an overall streamlining of the Amateur Service. Given its relative dormancy, it would be logical to conclude that disposing of the current Novice Class license is in order. However, it is not recommended that these amateurs should have their license grants terminated. The Commission has stated that it does not want to reduce or eliminate privileges for any radio amateur, including Novices. In addition, given the fact that many amateurs return to the service after a period of inactivity, it is deemed inappropriate, and against the best interests of the amateur community to cancel the license grants of these individuals. The best overall solution is to modify the existing Novice Class license grants into the entry-class license mandated in the Commission's streamlined system. It is reasoned that because these amateurs are mostly inactive, there will be insignificant

immediate impact on the Amateur Service. However, in the long run, this modification could result in many inactive Novices returning to the service with a renewed interest in the expanded privileges afforded by the upgraded Technician Class entry-level license proposed in this petition.

32. In keeping with the Commission's spirit of improvement and streamlining, and for consistency, it is also requested that all existing Novice Class licensees be granted lifetime credit for successful completion of the five word-per-minute radiotelegraph exam.

33. Therefore, the Radio Amateur Foundation respectfully requests that in the best interest of the Amateur Service, the Commission modify all existing Novice Class license grants to Technician Class and eliminate the Novice Class license.

V. The 29.0 - 29.3 MHz Wideband Digital Subband. A Digital Experimenters Dream.

34. Current restrictions on emission bandwidth below 30 MHz in the Amateur Service prevents any type of experimentation, or establishment of high-speed digital services that could improve the state of the technical art within the Amateur Service, and provide for an infrastructure that could be used for public service during times of emergency. The segment of spectrum from 29.0 to 29.3 MHz is relatively underutilized by the amateur community, and should be allocated for exclusive use for digital emissions of up to 15 kHz in bandwidth by all license classes within the Amateur Service, with power restrictions of 100 watts P.E.P for Technician Class licensees. Granting permission to utilize wideband digital emissions within this sub band would have virtually no adverse impact on existing Amateur Service communications, and would provide the regulatory approval needed in order to begin fostering a new wave of experimentation within the amateur community. Eventually, the merger of old-fashioned amateur ingenuity and spirit, with off-the-shelf technology will lead to the development of relatively high-speed digital communications systems, gateways and long-distance network infrastructure. Eventually, new types of hardware, software and system applications will emerge as amateurs are afforded new challenges with this exclusive allocation.

35. The Radio Amateur Foundation can envision the evolution of a network infrastructure that is not unlike today's popular Internet, yet an entirely different animal that is designed around the needs, goals and constraints of amateurs and the Amateur Service. Imagine IP-like networks with several hundred kilobits per second (or more) of bandwidth capacity², comprised entirely of dedicated nodes scattered throughout the globe. These interconnected networks will allow amateurs to connect to each other (either on 29 MHz or through a local VHF/UHF gateway), and will transport all types of data -- everything from electronic mail to emergency digital voice communications. The possibilities for are virtually limitless, and the 29 MHz wideband digital allocation will only be the beginning.

36. The Radio Amateur Foundation respectfully requests the Commission to allow wideband digital emissions of up to 15 kHz in the frequencies between 29.0 to 29.3 MHz inclusively. In the future, the Radio Amateur Foundation may petition the Commission to set that portion of the spectrum aside for digital amateur experimentation on an exclusive basis.

² at least 200 kilobits per second -- or more -- of data transfer is conceivable by implementing today's popular public compression algorithms

VI. Amateur High-Frequency Spectrum Reallocation. The Bandplan.

36a. With regards to recommendations made in this petition, the Radio Amateur Foundation respectfully requests that the Commission repartition the amateur high-frequency allocations as follows:

ITU Region II

160 meters (1.8 - 2.0 MHz)

CW, Data, Phone and Image

General and Extra	1.800 - 2.000 MHz
Technician*	1.900 - 2.000 MHz

80 meters (3.5 - 4.0 MHz)

CW, Data

Extra	3.500 - 4.000 MHz
General	3.525 - 3.725 MHz
" "	3.800 - 4.000 MHz
Technician*	3.625 - 3.725 MHz

Image, Phone

Extra	3.725 - 4.000 MHz
General	3.800 - 4.000 MHz

40 meters (7.0 - 7.3 MHz)

CW, Data

Extra	7.000 - 7.300 MHz
General	7.025 - 7.125 MHz
" "	7.175 - 7.300 MHz
Technician*	7.075 - 7.125 MHz

Image, Phone

Extra	7.125 - 7.300 MHz
General	7.175 - 7.300 MHz

20 meters (14.0 – 14.35 MHz)

CW, Data

Extra	14.000 – 14.350 MHz
General	14.025 – 14.150 MHz
“ “	14.225 – 14.350 MHz

Image, Phone

Extra	14.150 – 14.350 MHz
General	14.225 – 14.350 MHz

15 meters (21.0 – 21.450 MHz)

CW, Data

Extra	21.000 – 21.450 MHz
General	21.025 – 21.200 MHz
“ “	21.250 – 21.450 MHz
Technician*	21.100 – 21.200 MHz

Image, Phone

Extra	21.200 – 21.450 MHz
General	21.250 – 21.450 MHz
Technician*	21.350 – 21.450 MHz

10 meters (28.0 – 29.7 MHz)

CW, Data

General & Extra	28.000 – 29.700 MHz
Technician*	28.100 – 28.300 MHz

Image, Phone

General & Extra	28.300 – 29.700 MHz
Technician*	28.300 – 28.500 MHz

Wideband Data (emissions up to 15 kHz wide)

General & Extra	29.000 – 29.300 MHz
Technician* **	29.000 – 29.300 MHz

50 MHz and above

no changes to the current privileges and allocations

* limited to 100 watts P.E.P. output

** wideband digital emissions only

Region III (Pacific Regions within FCC Jurisdiction)

160 meters (1.800 – 2.000 MHz)

same as for Region II

75/80 meters (3.5 - 3.9 MHz)

CW, Data

Extra	3.500 - 3.900 MHz
General	3.525 - 3.725 MHz
Technician*	3.625 - 3.725 MHz

Image, Phone

Extra	3.725 - 3.900 MHz
General	3.775 - 3.900 MHz

40 meters (7.0 - 7.1 MHz)

CW, Data

Extra	7.000 - 7.100 MHz
General	7.025 - 7.100 MHz
Technician*	7.050 - 7.075 MHz

Image, Phone

Extra	7.075 - 7.100 MHz
General	7.075 - 7.100 MHz

20 meters (14.0 - 14.35 MHz)

same as for Region II

15 meters (21.0 - 21.450 MHz)

same as for Region II

10 meters (28.0 - 29.70 MHz)

same as for Region II

50 MHz and above

no changes to the current privileges and allocations

* limited to 100 watts P.E.P output

VII. Amateur Service Testing. Reforming a Broken System.

37. Part 97, section 503 (b) of the Commission's regulations regarding the Amateur Service states:

97.503(b) -- A written examination must be such as to prove that the examinee possesses the operational and technical qualifications required to perform properly the duties of an amateur service licensee.

This is in keeping with international law, as stipulated by Article 25, section 6, paragraph 2 of the ITU regulations:

25.6 2) Administrations shall verify the operational and technical qualifications of any person wishing to operate an amateur station.

38. Since written examinations are the accepted standard method utilized for evaluating an individual's "operational and technical" qualifications, it is very important that the examinations themselves meet two very important, and commonly accepted psychometric criteria:

- a) **Validity:** the examination must measure what it is supposed to measure. In the case of the Amateur Service, it must fulfill the objectives mandated by Part 97.503b, and ITU Article 25.6 paragraph 2.
- b) **Reliability:** the examination must be consistent in its measurements with each use over time, under similar (or identical) conditions and within a given population.

39. If a written examination element fails to meet either of these psychometric requirements, either through the

questions comprising the examination element, the test administration process or some other influential circumstance, then the test result cannot be guaranteed to actually reflect the knowledge of the examinee in regards to what the exam is trying to measure. In the case of the Amateur Service, this would imply that the examination element in question cannot necessarily guarantee that the basic requirement provided for by international law³, and the Commission's regulations have been fulfilled as required by Part 97.

40. Assuming that the current amateur written examinations are in fact, valid (the resulting score somewhat accurately reflects an individual's knowledge of the pertinent subjects areas) and reliable (the written examination will measure consistently over time and across a given population), there are two psychometric points relating to the current examination procedure that are of concern:

memory effect - a false positive score on an examination because respondents (examinees) remember the questions and correct answers from a previous administration of the same testing instrument. This is usually a result of an insufficient waiting period between examinations, exacerbated by the practice of providing correct answers to questions with incorrect responses.

practice effect - a false positive score on an examination because respondents (examinees) are exposed to the content and form of a testing instrument beforehand.

In psychometric terms, both of these effects are referred to as *systematic errors*: a condition that will skew the resulting measurement outside of an otherwise valid testing instrument, usually yielding a false positive result.

41. The current examination methodology in the Amateur Service consists of:

- a) VECs coordinating their efforts to building a large set of pertinent multiple choice questions and corresponding answer choices, covering the subjects appropriate for a particular testing element.
- b) collecting those questions into question pools from which written examination elements can be constructed.
- c) releasing the question pools to the public.

While there is no argument with steps A and B illustrated above, releasing the question pools to the public defeats the entire purpose of the required examination. In doing so, a serious practice effect is introduced, thereby from a true psychometric point-of-view, yields a false positive result for those who have had exposure to question pool beforehand. Instead of requiring the individual to actually become knowledgeable by pursuing a self-motivated course of personal training through study, understanding and experience, it reduces the knowledge required to successfully pass an examination element to rote memorization of possible questions and correct answers from the question pools.

In essence, a passing grade on an Amateur Service examination only shows who have successfully memorized the exam questions. It does not convey a person's actual knowledge of the subject matter required by the Commission, and by international law. If somehow, the current examination process was reviewed by the Federal Courts, as have other such tests such as the SAT and GMAT, it would be ruled by a competent judge that the results of these examinations were invalid. Also, the judge would likely rule that license grants made using this practice are in violation of international and Federal law, and thereby illegal.

42. Since the Commission began allowing the public release of Amateur Service examination question pools, it has been observed time and time again, that many individuals who have minimal understanding, and no actual knowledge of the subject areas covered in an examination element, have successfully passed the written test elements merely by memorizing the questions and the corresponding correct answer choice from the pools. In essence, it is easier to obtain an amateur radio license through memorization technique rather than through true subject comprehension. Given human nature is much like electron flow, when confronted with an obstacle, it will generally choose the path of least resistance; in this case, memorization instead of understanding and comprehension. As a result, this practice has

had a detrimental, long-term effect on the Amateur Service with the subsequent granting of licenses to people who do not actually comprehend the subjects they have successfully tested for. In essence, the public release of the examination question pools significantly tends to yield systematic 'false positives' on exam scores, thereby yielding results that only measure memorization capacity rather than true comprehension of the required subject matter. Even more alarmingly, because of the flawed nature of this practice, successful examinees fail to realize why true understanding of these topics was even required of them in the first place. As more and more individuals enter the Amateur Service via this method, this type of pathological misunderstanding will only perpetuate itself. In the long run, it is will only lead to a total disdain and contempt for the Amateur Service's tradition and reasoning for examination, the Service's culture, and of the reasoning behind any of the Commission's requirements in general.

43. The Radio Amateur Foundation, an organization more concerned with true quality rather than quantity within the amateur ranks, respectfully asks the Commission to discontinue the practice of releasing the examination question pools to the public as soon as possible, and return to its philosophy of actually requiring a person to prove his knowledge and understanding of

required subjects before granting a license. This action will require disposing of all current question pools for all amateur examinations immediately, rewriting the questions from scratch and requiring those organizations administering examinations, the Volunteer Examination Coordinators to reconstruct the examination elements and individual tests, and to keep the source question pools secure from public access. While this may prove to be an inconvenience to the question pool administrators, the end result will be a return to a testing procedure that is in compliance with international and Federal law. It will also mark the return to generalized and sincere self-training within the Amateur Service, instead of rote memorization used solely for the purpose of passing an exam. Both individual amateurs, and the service as a whole, will benefit from this action.

Retesting Procedure for Failed Examination Elements

44. To compound the public question pool problem is the practice of allowing examinees to retake an examination element immediately after failing it. The examinee only has to pay the required examination fee, fill out another form 605, and is handed another copy of the exam -- in most cases, the same exact examination that was just failed by the applicant. Given that the examinee has most likely had the missed questions shown to him by the examiner, along with the corresponding correct answer choices,

passing the examination element during the next attempt (or immediate subsequent attempts) is almost assured. In psychometric terms, this introduces the strong *memory effect* (defined earlier), and is virtually guaranteed to yield false-positive results. Consequently, the resulting score is skewed towards a positive outcome, and does not reflect the examinees actual knowledge of the subjects required for a license grant. Once again, if this practice was brought before a reasonable judge in the Federal courts, he would find the process invalid, and also might find that all license grants made using this process to be in violation of international and Federal law.

45. It has been observed that the practice of immediately retaking a failed examination element is encouraged by the Volunteer Examiners. This practice reduces the integrity of the examination process itself, instills a foundation of contempt for the spirit of the process in the examinee and establishes doubt as to the validity of the exam results. Subsequently, it also establishes significant doubt as to the corresponding qualifications of the examinee for a Commission license grant.

46. At one time, the Commission required a 30-day waiting period before an individual could retake a failed Amateur Service examination. Most authorities in psychometrics would concur that

this waiting period is reasonable, and would reduce the systematic error caused by memory effect to a negligible amount. The vast majority of authorities who rely on valid examination results in their decision-making processes, such as universities, private corporations and government entities recognize the implications of the memory effect and insist on reasonable waiting periods between test administrations. The Amateur Service is worthy of the same integrity and consideration in its examination processes as well.

47. The Radio Amateur Foundation respectfully requests that the Commission require a minimum ten day waiting period before permitting an examinee to retake a previously failed exam element. While not ideal, this period of time would significantly reduce the memory effect that confounds the scores of most examination retakes. The Radio Amateur Foundation also requests that the Commission require Volunteer Examination Coordinators to prepare multiple, substantially different versions of the examination elements, and to not administer the same version of an examination element to the same individual within a 30 day period. This will require an appropriate change to Part 97 of the Commission's regulations governing the Amateur Service, and will require that the Volunteer Examination Coordinators prepare multiple versions of each element in the Amateur Service.

VIII. Systematic Callsigns and the Vanity Callsign System

48. When the Commission introduced the Vanity Callsign System in 1996, those amateurs who had been given systematic callsign assignments rejoiced. Once again, amateurs could choose their own callsigns, and end up with one that they liked, and could be proud of.

49. While amateurs are grateful for being able to choose their own calls, it is believed by the Radio Amateur Foundation that this should not be an automatic right granted to all licensed amateurs. Access to the Vanity Callsign System should be something that is earned through advancement and commitment to the Amateur Service.

50. Also, an opportunity is afforded with the proposed entry-level Technician Class license, where a licensee of this class is assigned a distinctive callsign systematically - much like the old 'WN' and 'KN' calls from the old Novice Class license. By doing so, more experienced amateurs would immediately know that the amateur 'on the other end' is an entry-class licensee, and could in the true spirit of the amateur service assist in fostering their development as an amateur. This will

also provide one more incentive for amateurs to upgrade to a higher class license.

51. Therefore, the Radio Amateur Foundation requests that the Commission make the two following modifications to Part 97 of the Commissions regulations governing the Amateur Service:

- A. New Technician Class licensees will be assigned a distinctive callsign, and from an unused Class D amateur prefix block (such as NA, NN, etc.).
- B. Only amateurs who have been licensed for more than two years, OR presently hold General Class or Amateur Extra Class licenses may request a specific callsign from the Vanity Callsign System.

IX. Conclusions

52. With this petition, the Radio Amateur Foundation has set forth a thoughtful blueprint for the future of the Amateur Service in the United States. We have introduced a progressive modification to a popular entry-point to the Amateur Service, thereby creating a new, entry-level license that is in step with the needs of the service, without burdening the Commission with the task of creating a new entry-point from scratch. We have also laid down the groundwork for maintaining the integrity and culture of amateur radio itself, while simultaneously providing for progressive new services on underutilized amateur spectrum. We have also recognized the need for incentives in our community, and provided ample motivation for newcomers to set out on the path of self-training required in order to upgrade to higher class licenses.

53. The Radio Amateur Foundation, an organization of devoted radio amateurs without pecuniary interest, hereby respectfully requests that the Commission act swiftly on this petition, and introduce it as soon as possible, with an official Notice of Proposed Rule-Making.

The Radio Amateur Foundation

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Appendix A -- Part 97 Modifications

Section 97.5(b)(2) would be modified to read as follows:

Sec. 97.5 Station license required.

(b)(2) A club station license grant. A club station license grant may be held only by the person who is the license trustee designated by an officer of the club. The trustee must be a person who holds an Amateur Extra or General operator license grant. Technician licensees who are currently trustees of club stations under prior rules may continue as the trustee. The club must be composed of at least four persons and must have a name, a document of organization, management, and a primary purpose devoted to amateur service activities consistent with this part.

Section 97.9 would be modified to read as follows:

Sec. 97.9 Operator license grant.

(a) The classes of amateur radio operator license grants are: Technician, General and Amateur Extra. Those licensees holding a valid and unexpired (or expired within the grace period) license of Novice Class on [effective date] will be converted to Technician Class. Those licensees holding a valid and unexpired (or expired within the grace period) license of Advanced Class on [effective date] will be converted to Amateur Extra Class. Novice and Advanced Class licensees who wish to have an updated license document issued to them are entitled to file an application on Form 605 through a VEC in order to obtain such. The person named in the operator license grant is authorized to be the control operator of an amateur station with the privileges authorized to the operator class specified on the license grant.

(b) The person named in an operator license grant of Technician or General Class, who has properly submitted to the administering VEs a FCC Form 605 document requesting examination for an operator license grant of a higher class, and who holds a CSCE indicating that the person has completed the necessary examinations within the previous 365 days, is authorized to exercise the rights and privileges of the higher

operator class until final disposition of the application or until 365 days following the passing of the examination, whichever comes first.

Section 97.17(d) would be modified to read as follows:

Sec. 97.17 Application for a new license grant.

(c) One unique call sign will be shown on the license grant of each new primary, club and military recreation station. The call sign will be selected by the sequential call sign system. Call signs for new Technician Class license grants shall be assigned sequentially from Block D (2x3), and shall begin with the prefix 'N'.

Section 97.19(a) would be modified to read as follows:

Sec. 97.19 Application for a vanity call sign.

(a) The person named in an operator/primary station license grant or in a club station license grant is eligible to make application for modification of the license grant, or the renewal thereof, to show a call sign selected by the vanity call sign system, provided that one of the following conditions are met:

- a. the person named in the operator/primary station license grant is a General Class or Amateur Extra Class license.
- b. the person named in the operator/primary station license grant in a Technician Class license who held the grant for period of at least two years.

RACES and military recreation stations are not eligible for a vanity call sign.

Section 97.119(f) would be modified to read as follows:

Sec. 97.119 Station Identification.

(f) When the control operator who is exercising the rights and privileges authorized by Section 97.9(b) of this Part, an indicator must be included after the call sign as follows:

- (1) For a control operator who has requested a license modification from Technician to General Class: AG;
- (2) For a control operator who has requested a license modification from Technician or General Class to Amateur Extra Class: AE.

Section 97.203 would be modified to read as follows:

Sec. 97.203 Beacon station.

(a) Any amateur station licensed to a holder of a Technician, General or Amateur Extra Class operator license may be a beacon. A holder of a Technician, General or Amateur Extra Class operator license may be the control operator of a beacon, subject to the privileges of the class of operator license held.

(d) A beacon may be automatically controlled while it is transmitting on the 28.20-28.30 MHz, 50.06-50.08 MHz, 144.275-144.300 MHz, 222.05-222.06 MHz or 432.300-432.400 MHz segments, or on the 33 cm and shorter wavelength bands. A holder of a Technician Class operator license may only operate an automatically controlled beacon on authorized frequencies above 50 MHz.

Section 97.205(a) would be modified to read as follows:

Sec. 97.205 Repeater station.

(a) Any amateur station licensed to a holder of a Technician, General or Amateur Extra Class operator license may be a repeater. A holder of a Technician, General or Amateur Extra Class operator license may be the control operator of a repeater, subject to the privileges of the class of operator license held.

Section 97.301 would be modified to read as follows:

Sec. 97.301 Authorized frequency bands.

The following transmitting frequency bands are available to an amateur station located within 50 km of the Earth's surface, within the specified ITU Region, and outside any area where the amateur service is regulated by any authority other than the FCC.

(a) For a station having a control operator who has been granted a Technician, General, or Amateur Extra Class operator license or who holds a CEPT radio-amateur license or IARP of any class:

Wavelength band	ITU Region I	ITU Region II	ITU Region II	Sharing requirements See Section 97.303 Paragraph:
VHF	MHz	MHz	MHz	
6 m	—	50-54	50-54	(a)
2 m	144-146	144-148	144-148	(a)
1.25 m	—	219-220	-	(a), (e)
-do-	-	222-225	-	(a)
UHF	MHz	MHz	MHz	
70 cm	430-440	420-450	420-450	(a),(b),(f)
33 cm	—	902-928	-	(a),(b),(g)
23 cm	1240-1300	1240-1300	1240-1300	(b),(l)
13 cm	2300-2310	2300-2310	2300-2310	(a),(b),(l)
-do-				
SHF	GHz	GHz	GHz	
9 cm	—	3.3-3.5	3.3-3.5	(a),(b),(k),(l)
5 cm	5.650-5.850	5.650-5.850	5.650-5.850	(a),(b),(m)
3 cm	10.00-10.50	10.00-10.50	10.00-10.50	(b),(c),(i),(n)
1.2 cm	24.00-24.25	24.00-24.25	24.00-24.25	(a),(b),(h),(o)

EHF	GHz	GHz	GHz	
6 mm	47.0-47.2	47.0-47.2	47.0-47.2	
4 mm	75.5-81.0	75.5-81.0	75.5-81.0	(b),(c),(h)
2.5 mm	119.98-120.02	119.98-120.02	119.98-120.02	(k),(p)
2 mm	142-149	142-149	142-149	(b),(c),(h),(k)
1 mm	241-250	241-250	241-250	(b),(c),(h),(q)
-	above 300	above 300	above 300	(k)

(b) For a station having a control operator who has been granted an Amateur Extra Class operator license or who holds a CEPT radio-amateur license or Class 1 IARP:

Wavelength Band	ITU Region I	ITU Region II	ITU Region III	Sharing requirements See Section 97.303 Paragraph:
MF	kHz	kHz	kHz	
160 m	1810-1850	1800-2000	1800-2000	(a),(b),(c)
HF	MHz	MHz	MHz	
80 m	3.50-3.725	3.5-3.725	3.5-3.725	(a)
75 m	3.725-3.8	3.725-4.0	3.725-3.9	(a)
40 m	7.0-7.1	7.0-7.3	7.0-7.1	(a)
30 m	10.1-10.15	10.1-10.15	10.1-10.15	(d)
20 m	14.0-14.35	14.0-14.35	14.0-14.35	
17 m	18.068-18.168	18.068-18.168	18.068-18.168	
15 m	21.0-21.45	21.0-21.45	21.0-21.45	
12 m	24.89-24.99	24.89-24.99	24.89-24.99	
10 m	28.0-29.7	28.0-29.7	28.0-29.7	

(c) For a station having a control operator who has been granted an operator license of General Class:

Wavelength Band	ITU Region I	ITU Region II	ITU Region III	Sharing requirements See Section 97.303 Paragraph:
MF	kHz	kHz	kHz	
160 m	1810-1850	1800-2000	1800-2000	(a),(b),(c)
HF	MHz	MHz	MHz	
80 m	3.525-3.725	3.525-3.725	3.525-3.725	(a)
75 m	3.775-3.8	3.8-4.0	3.775-3.9	(a)
40 m	7.025-7.1	7.025-7.125	7.025-7.1	(a)
-do-	-	7.175-7.3	-	(a)
30 m	10.1-10.15	10.1-10.15	10.1-10.15	(d)
20 m	14.025-14.15	14.025-14.15	14.0-14.15	
-do-	14.225-14.35	14.225-14.35	14.225-14.35	
17 m	18.068-18.168	18.068-18.168	18.068-18.168	
15 m	21.0-21.2	21.0-21.2	21.0-21.2	
-do-	21.250-21.45	21.250-21.45	21.250-21.45	
12 m	24.89-24.99	24.89-24.99	24.89-24.99	
10 m	28.0-29.7	28.0-29.7	28.0-29.7	

(d) For a station having a control operator who has been granted an operator license of Technician Class:

Wavelength Band	ITU Region I	ITU Region II	ITU Region III	Sharing requirements See Section 97.303 Paragraph:
MF	kHz	kHz	kHz	
160 m	-	1900-2000	1900-2000	(a),(b),(c)
HF	MHz	MHz	MHz	
80 m	3.625-3.725	3.625-3.725	3.625-3.725	(a)
40 m	7.05-7.075	7.075-7.125	7.075-7.125	(a)
15 m	21.1-21.2	21.1-21.2	21.1-21.2	
-do-	21.35-21.45	21.35-21.45	21.35-21.45	
10 m	28.1-28.5	28.1-28.5	28.1-28.5	
-do-	29.0-29.3	29.0-29.3	29.0-29.3	

Section 97.301(e) in the current regulations would be deleted.

Section 97.305(c) would be modified to read as follows:

Wavelength Band	Frequencies Authorized	Emission Types	Standards see Section 97.307(paragraph:
MF			
160 m	Entire band	RTTY, data,	(3)
160 m	Entire band	Phone, image	(1),(2)
HF			
80 m	Entire band	RTTY, data	(3),(9)
75 m	Entire band	Phone, image	(1),(2)
40 m	7.0-7.075 MHz	RTTY, data	(3),(9)
40 m	7.075-7.1 MHz	Phone, image	(1),(2),(9)
40 m	7.075-7.125 MHz	RTTY, data	(3)
40 m	7.125-7.3 MHz	Phone, image	(1),(2)
30 m	Entire band	RTTY, data	(3)
20 m	14.0-14.15	RTTY, data	(3)
20 m	14.15-14.35 MHz	Phone, image	(1),(2)
17 m	18.086-18.110 MHz	RTTY, data	(3)
17 m	18.110-18.186 MHz	Phone, image	(1),(2)
15 m	21.0-21.2 MHz	RTTY, data	(3)
15 m	21.2-21.45 MHz	Phone, image	(1),(2)
12 m	24.89-24.93 MHz	RTTY, data	(3)
12 m	24.93-24.99 MHz	Phone, image	(1),(2)
10 m	28.0-28.3 MHz	RTTY, data	(4)
10 m	28.3-28.5 MHz	Phone, image	(1),(2)
10 m	28.5-29.0 MHz	Phone, image	(1),(2)
10 m	29.0-29.3 MHz	Phone, image, data	(1),(2),(12),(13)
10 m	29.3-29.7 MHz	Phone, image	(2)
VHF			
6 m	50.1-51.0 MHz	MCW, phone, image, RTTY, data	(2),(5)
6 m	51.0-54.0 MHz	MCW, phone, image, RTTY, data, test	(2),(5),(8)
2 m	144.1-148.0 MHz	MCW, phone, image, RTTY, data, test	(2),(5),(8)
1.25 m	219-220 MHz	Data	(13)
1.25 m	222-225 MHz	MCW, phone, image, RTTY, data, test	(2),(5),(8)

UHF			
70 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(6),(8)
33 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
23 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(7),(8),(10)
13 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
SHF			
9 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
5 cm	Entire band	MCW, phone, image, RTTY, data, test, pulse	(7),(8),(10)
3 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(7),(8),(10)
1.2 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
EHF			
6 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
4 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
2.5 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
2 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
1 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)
-	Above 300 GHz	MCW, phone, image, RTTY, data, SS, test, pulse	(7),(8),(10)

Sections 97.307(f)(9) and (10) would be deleted, and subsections (f)(11)-(13) would be renumbered accordingly.

Section 97.307(f)(11), which becomes subsection(f)(9), would be modified to read as follows:

Sec. 97.307(f)

(9) Phone and image emissions may be transmitted only by stations located in ITU Regions 1 and 3, and by stations with control operators holding General Class or Amateur Extra Class operator licenses located within ITU Region 2 that are west of

130 degrees West longitude or south of 20 degrees North latitude.

After renumbering, new section 97.307(f)(12) would read as follows:

Sec. 97.307(f)

(12) A data emission using an unspecified digital code under the limitations listed in Sec. 97.309(b) also may be transmitted. The authorized bandwidth is 15 kHz.

After renumbering, new section 97.307(f)(13) would read as follows:

(13) Stations with Technician Class operator licenses may only use a data emission as allowed by 97.307(f)(12). All other emission types for stations with Technician Class operator licensees are prohibited.

Section 97.313 would be modified to read as follows:

Sec. 97.313 Transmitter power standards.

(d) No station may transmit with a transmitter power exceeding 100 W PEP on the 1.9-2.0 MHz, 3.625-3.725 MHz, 7.075-7.125 MHz, 21.1-21.2 MHz, 21.35-21.45, 28.1-28.5 MHz and 29.0-29.3 MHz segments when the control operator is a Technician Class operator, and on the 1.9-2.0 MHz, 3.625-3.725 MHz, 7.05-7.075 MHz, 21.1-21.2 MHz, 21.35-21.45 MHz, 28.1-28.5 MHz and 29.0-29.3 MHz segments when the control operator is a Technician Class operator in Regions 1 and 3.

Section 97.501 would be modified to read as follows:

Sec. 97.501 Qualifying for an amateur operator license.

(a) Each applicant must pass an examination for a new amateur operator license grant and for each change in operator class. Each applicant for the class of operator license grant specified below must pass, or otherwise receive examination credit for, the following examination elements:

- (1) Amateur Extra Class operator: Elements 1,2,3, and 4;
- (2) General Class operator: Elements 1, 2, and 3;
- (3) Technician Class operator; Element 2;

(b) In the event that an applicant fails an examination element, the application must wait for at least 10 days before

retesting for the same element. Violation of this waiting period will result in the loss of any completion credit that may have been acquired for that element. Repeated violations may result in loss of any amateur operator license granted by the FCC that the applicant holds.

Section 97.503 would be modified to read as follows:

Sec. 97.503 Element standards.

(a) A telegraphy examination must be sufficient to prove that the examinee has the ability to send correctly by hand and to received correctly by ear texts in the international Morse code at not less than the prescribed speed, using all letters of the alphabet, numerals 0-9, period, comma, question mark, slant mark and prosigns AR, BT and SK.

Element 1: 5 words per minute.

(b) A written examination must be such as to prove that the examinee possesses the operational and technical qualifications required to perform properly the duties of an amateur service licensee. Each written examination must be composed of a question set as follows:

- (1) Element 2: 35 questions concerning the privileges of a Technician Class operator license. The minimum passing score is 26 questions answered correctly.
- (2) Element 3: 50 questions concerning the privileges of a General Class operator license. The minimum passing score is 37 questions answered correctly.
- (3) Element 4: 70 questions concerning the privileges of an Amateur Extra Class license. The minimum passing score is 52 questions answered correctly.

Section 97.505 would be modified to read as follows:

Sec. 97.505 Element credit.

(a) The administering VEs must give credit as specified below to an examinee holding any of the following license grants or license documents:

- (1) An unexpired (or expired but within the grace period for renewal) FCC-granted Advanced Class operator license grant: Elements 1, 2, 3 and 4.
- (2) An unexpired (or expired but within the grace period for renewal) FCC-granted Novice Class operator license grant: Elements 1 and 2;
- (3) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Plus Class operator license grant: Elements 1 and 2;
- (4) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Class or Technician Plus Class operator license grant with documented proof of qualification for the Technician Class operator license dated on or before March 21, 1987: Elements 1, 2 and 3;
- (5) A CSCE: Each element the CSCE indicates the examinee passed within the previous 365 days.
- (6) An unexpired (or expired less than 5 years) FCC-issued commercial radiotelegraph operator license or permit: Element 1;
- (7) An expired or unexpired FCC-issued Technician Class operator license document granted before February 14, 1991; Technician Plus Class or General Class operator license issued before [effective date]; or an Advanced Class or Amateur Extra Class operator license: Element 1.

(b) No examination credit, except as herein provided, shall be allowed on the basis of holding or having held any other license grant or document.

Section 97.507(a) Should be modified to read as follows:

Sec. 97.507 Preparing an examination.

(a) ..

- (1) Elements 1, 3 & 4: Amateur Extra Class operator.
- (2) Elements 2: General Class or Amateur Extra Class operator.

Section 97.509 Should be modified to read as follows:

Sec. 97.509 Administering VE requirements.

(b) ..

(3) Be a person who holds an amateur operator license of the class specified below:

- (i) Amateur Extra or General Class in order to administer a Technician Class operator license examination;
- (ii) Amateur Extra in order to administer General Class operator license examination;
- (iii) Amateur Extra in order to administer Amateur Extra Class operator license examination;

(f) No examination that has been compromised shall be administered to any examinee. Neither the same telegraphy message nor the same question set may be re-administered to the same examinee within a thirty (30) day period.

(j) When the examinee does not score a passing grade on an examination element, the administering VE must:

- (1) inform the examinee of the grade. No VE shall divulge the incorrectly answered questions or answers to any examinee.
- (2) record the examinees name, TIN, call sign (if any), element failed, and the date of examination with the common tracking system shared by all VECs within seven (10) days of an examination.
- (3) retain the examinees application in a secure location a minimum of 90 days.

Section 97.519(b) should be modified to read as follows:

Sec. 97.519(b) Coordinating examination sessions.

- (1) Screen collected information and enter the examinees names, TIN, call sign (if any), element, test version, date of test and results of each examination with the VEC common tracking system.
- (2) Resolve any discrepancies, verify that the VE's certifications are properly completed and;
- (3) For qualified examinees, forward electronically all required data to the FCC. All data forwarded must be retained for at least 15 months and must be made available to the FCC upon request.
- (4) In the event that a violation of 97.501(b) is discovered, any completion credit for the element must be cancelled, and the examinee must be notified in writing as to the violation and cancellation of examination credit. If the FCC has been forwarded an upgrade request with completion credit for an element, the FCC must be notified of the violation and any license grants resulting from the violation will be cancelled. If repeated violation of 97.501(b) is noted, the FCC must be notified of the situation, along with a recommendation of action.

Section 97.523 should be modified to read as follows:

Sec. 97.523 Question Pools.

All VECs must cooperate in maintaining one question pool for each written examination element. Each question pool must contain at least 10 times the number of questions required for a single examination. Each copy of the question pool must be kept in a secure location and only divulged to those trusted VEs who assist in the process of developing individual examinations. In the event that the question pool is compromised, all other VECs using the question pool must be notified immediately, and all examinations that are based on the compromised question pool must no longer be used. Each question on each VEC question pool must be prepared by a VE holding the required FCC-issued operator license. See Sec. 97.507(a) of this part.